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## THE SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY SOLID WASTE FACILITIES

THE SALT RIVER PIMA-MARICOPA INDIAN COPEOPLE DEDICATED TO THE BEAUTY AND PRITHEIR LANDS. A LAND THAT HAS SERVED THE C BOUNTIFUL CROPS, BEAUTIFUL STREAMS AND A WITH MOUNTAINS. A COMMUNITY WITH PRIDE, PERSEVERANCE DURING ADVERSITY.





WITH THE CLOSURE OF THE TRI-CITY LANDFILL, CONSTRUCTION OF THE HARDBANK LEVEE AND THE CONSTRUCTION OF THE SALT RIVER LANDFILL THE COMMUNITY IS WORKING TO FULFILL IT'S COMMUNITY TO THE LAND AND THE PEOPLE OF THE COMMUNITY AND SURROUNDING AREA.

EACH OF THESE PROJECTS REFLECT THE COMMUNITY'S COMMITMENT TO IMPLEMENTED DESIGN AND CONSTRUCTION TECHNIQUES
THAT MEET OR EXCEED THE FEDERAL ENVIRONMENTAL REGULATIONS. FURTHER, THE COMMUNITY HAS PROVIDED THE FUNDING
AND MUCH OF THE HUMAN RESOURCES TO CONSTRUCT THESE PROJECTS. SALT RIVER SAND & ROCK, A COMMUNITY OWNED ENTERPRISE, WAS THE GENERAL CONTRACTOR FOR EACH OF THE
PROJECTS. AFTER THE DEVELOPMENTS HAVE SERVED THEIR PURPOSE, THEY WILL BE RETURNED BACK TO THE NATURAL BEAUTY OF
THE DESERT AS WITH THE LANDFILL CLOSURE PROJECTS.

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SALT RIVER BANK PROTECTION AND CHANNELIZATION IN THE SUMMER OF 1993, THE COMMUNITY UNDERTOOK THE SALT RIVER BANK PROTECTION AND CHANNELIZATION PROJECT TO STABILIZE THE SALT RIVER IN THE VICINITY OF THE TRI-CITY AND CENTER STREET LANDFILLS. THE COMMUNITY RETAINED SIMONS, LI & ASSOCIATES TO DESIGN AND PROVIDE CONSTRUCTION QUALITY ASSURANCE FOR THIS 10,000 FOOT LONG BANK PROTECTION SYSTEM. DURING CONSTRUCTION APPROXIMATELY 1.2 MILLION CUBIC YARDS OF CHANNEL SOIL WAS EXCAVATED TO BUILD THE EARTHEN EMBANKMENT. APPROXIMATELY 150,000 CUBIC YARDS OF CEMENT STABILIZED ALLUVIUM (CSA), A MIXTURE OF CHANNEL SOIL AND CEMENT, WAS USED TO CONSTRUCT THE HARDBANK PROTECTION COVERING THE EARTHEN EMBANKMENT. THE CSA REQUIRED 16,000 TONS OF CEMENT AND NEARLY 4 MILLION GALLONS OF WATER. THE HARDBANK'S TOE-DOWN EXTEND UP TO 20 FEET BELOW THE CHANNEL BED TO PROTECT THE LANDFILLS FROM RIVER SCOUR. THE HARDBANK STANDS NEARLY 30 FEET ABOVE THE RIVER CHANNEL TO PROTECT THE LANDFILLS FROM A 100-YEAR FLOOD.



SALT RIVER LANDFILL CONSTRUCTION





CLOSURE OF TRI-CITY AND NORTH CENTER STREET LANDFILLS ON OCTOBER 8, 1993, THE COMMUNITY CLOSED THE GATE OF ITS TRI- CITY LANDFILL. RECENTLY ENACTED AMENDMENTS TO THE RESOURCE CONSERVATION AND RECOVERY ACT, 40 CFR PARTS 257 AND 258, EPA SOLID WASTE DISPOSAL FACILITY CRITERIA; FINAL RULE, OCTOBER 9, 1991 (SUBTITLE D), REQUIRED THE COMMUNITY TO DEVELOP AND IMPLEMENT A FINAL CLOSURE PLAN FOR THESE LANDFILLS. THE COMMUNITY RETAINED CH2M HILL TO PREPARE THE CLOSURE PLANS AND PROVIDE CONSTRUCTION QUALITY ASSURANCE. THE PROJECT INCLUDES IMPORTING 1.9 MIL-LION CUBIC YARDS OF SOIL FOR FINAL GRADING OF THE 235 ACRE LANDFILL SURFACE, PLACEMENT OF 636,000 CUBIC YARDS OF COM-PACTED CLAY COVER AND 424,000 CUBIC YARDS OF VEGETATIVE COVER, CONSTRUCTION OF SITE DRAINAGE, LANDSCAPING AND ENVIRONMENTAL MONITORING SYSTEMS. THE FINAL CLOSURE PLAN INCLUDES DOCUMENTATION OF PAST DISPOSAL PRACTICES, PREPA-RATION OF A CONSTRUCTION QUALITY ASSURANCE PLAN, POSTCLO-SURE MAINTENANCE PLAN, AND ESTIMATES OF CLOSURE AND POST-CLOSURE COSTS.



## SALT RIVER LANDFILL

THE COMMUNITY BEGAN OPERATION OF ITS NEW SALT RIVER LANDFILL ON OCTOBER 8, 1993. THIS STATE-OF-THE-ART MUNICI-PAL SOLID WASTE HANDLING FACILITY IS LOCATED ON TWO HUN-DRED ACRES OF COMMUNITY PROPERTY ALONG STATE ROUTE 87. ONE HUNDRED ACRES OF THE SITE WILL BE USED TO DISPOSE OF 4.7 MILLION TONS OF REFUSE OVER THE NEXT 10 YEARS, WITH UP TO 2,000 TONS OF REFUSE EACH DAY. IN ADDITION TO LANDFILL-ING, THE FACILITY WILL PROVIDE FOR GREEN WASTE CHIPPING AND COMPOSTING ALONG WITH THE COLLECTION OF RECYCLABLES. THE COMMUNITY RETAINED BLACK & VEATCH TO DESIGN AND PRO-VIDE CONSTRUCTION QUALITY ASSURANCE FOR THE SALT RIVER LANDFILL BASED UPON THE FEDERAL SUBTITLE D REGULATIONS. USING A FAST-TRACK, DESIGN-BUILD APPROACH, THE PROJECT WENT FROM SITE ASSESSMENT THROUGH DESIGN AND CONSTRUCTION IN ONLY SEVEN MONTHS. THIS APPROACH REQUIRED OVERLAPPING SITE ASSESSMENT, ENGINEERING, DESIGN AND CONSTRUCTION FOR THE INITIAL WASTE CELL, ROADS, BUILDINGS, AND ENVIRONMENTAL PROTECTION SYSTEMS.

THE FIRST PHASE OF THE NEW LANDFILL WAS CONSTRUCTED BY EXCAVATING 2.4 MILLION CUBIC YARDS OF SOIL AND ROCK WITHIN 90 DAYS TO FORM THE BASE FOR THE FIRST FILL AREA. A COMPOSITE LANDFILL LINER SYSTEM WAS CONSTRUCTED CONSISTING OF A TWO-FOOT THICK LOW PERMEABILITY LAYER OF CLAY, A FLEXIBLE MEMBRANE LINER, A DRAINAGE LAYER WITH A LEACHATE COLLECTION SYSTEM, AND A TWO FOOT THICK PROTECTIVE SOIL LAYER. LEACHATE IS COLLECTED IN PERFORATED PIPES LOCATED IN THE LANDFILL DRAINAGE LAYER AND IS PUMPED THROUGH SIDE SLOPE RISER PIPES LOCATED IN THE LANDFILL DRAINAGE LINER TO A LEACHATE SURGE TANK WHERE IT IS THEN PUMPED TO THE LEACHATE EVAPORATION POND. THE LANDFILL ALSO HAS FOUR, 390-FOOT DEEP GROUNDWATER MONITORING WELLS LOCATED AROUND THE LANDFILL. IN ADDITION THERE ARE 12 MULTIPLE DEPTH LANDFILL GAS MONITORING PROBES TO CHECK FOR THE ACCU-MULATION OF GASES WITHIN THE SOIL AROUND THE LANDFILL.

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